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## Application of ICP-MS for the determination of 99Tc and 90Sr in primary coolant water. Optimalization of measurements and analysis of potential interferences.

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Sr-90 and Tc-99 are produced by the fission of U-235. Information on Sr, Tc and other fission and activation product content in the primary coolant and at various locations in the purification system can be of considerable value in assessing fuel integrity and performance of purification system component. Using inductively coupled plasma mass spectrometry (ICP-MS) for long-lived radionuclides improves detection limit and accuracy. However, in accurate measurements by ICP-MS method, the contribution of isobaric interferences from atomic- and molecular ions created by plasma gas and/or solvent used should be defined and appropriate ways of their elimination should be introduced. Also, to obtain accurate results in trace and ultra-trace analysis of Tc-99 and Sr-90, optimatization of measurements is necessary. In this work, the influence of different parameters (eg. sample flow rate, nebulizer type) on the strontium and technetium measurements have been taken into account.

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